IV. INFRASTRUCTURE PLAN

This chapter sets forth the objectives, performance standards, design criteria, funding mechanisms, and implementation responsibilities for the infrastructure elements that will serve the needs of the community of Rancho La Sierra. The infrastructure elements include the following:

CIRCULATION SYSTEM

The network of private and public streets that will provide for vehicular circulation within the project site and connect the site to the surrounding roadway system.

UTILITIES

The water, sanitary sewer, and storm drainage facilities that are required to provide for the distribution of water, the collection and conveyance of wastewater, and the collection, treatment, and discharge of stormwater runoff.

SOLID WASTE DISPOSAL

Facilities and planning considerations that provide for the collection and disposal of solid wastes and for minimizing total landfill disposal of solid wastes through recycling, reuse and reduction techniques.

ENERGY

Facilities to meet the demands for natural gas and electrical power generated by the developed community of Rancho La Sierra.

CIRCULATION SYSTEM

Objectives

a. Provide for the safe, smooth flow of vehicular traffic through an integrated network of public and private streets.

b. Minimize grading of hillside landforms in the construction of roadways.

c. Restrict access through existing residential areas to the south, to the maximum extent feasible (amend the General Plan Transportation Element, Streets and Highways Diagram to delete the northerly extensions of Sandy Lane and Jones Avenue into the site).

d. Prohibit through public circulation across the site (amend the General Plan Transportation Element, Streets and Highways Diagram to delete the westerly extension of Jurupa Avenue across the site).

Performance Standards

a. Required traffic control and congestion management improvements shall be installed and fully operational prior to the release of occupancy for individual projects necessitating the required improvements.

b. Public streets shall operate at Level of Service "D" or better.

c. Maintenance of all non-standard improvements such as the public collector street landscaping and the Arlington Avenue entry treatment shall be achieved through non-public means, such as an assessment district or homeowner's association.

d. Private streets will be maintained through non-public means, as discussed above.

Design Criteria

Design criteria for the vehicular circulation system are divided into public and private street categories, as defined below.

Public Streets

The public street system serving the community of Rancho La Sierra is identified in Figure 21. This system is limited to a discontinuous collector street and a stub public street off Tyler Street. Arlington Avenue serves as the main project entryway, providing access to the golf courses, Santa Ana River Regional Park, and serving residential neighborhoods within Rancho La Sierra. Tyler Street is a secondary project entry, providing access to the park, school, and residences. Emergency access is provided via the extensions of Country Bluffs Road, Western Avenue, and Jones Avenue. Access at these locations is for emergency purposes only; these roads will not be extended as public streets. Specific alignments, profiles and roadway geometrics shall be determined as part of the master subdivision and subsequent development approval process, explained in Chapter V of this document.

FIGURE 21

Not to Scale

CIRCULATION PLAN

Typical cross sections illustrating the design criteria for the main collector street segments are provided in Figures 22 to 26. A two-lane "country road" is envisioned for the main public collector connecting to Arlington Avenue, with a wide, landscaped center median and landscaped parkways along both sides of the street. Right-of-way is 80 feet, with variable median widths and variable parkway widths, depending upon topographical conditions and whether a public sidewalk or trail is included within the right-of-way. Landscaping within the center median is envisioned to consist of tall, broad canopy trees, mixed with complementary groundcovers and irregular shrub massings. Proposed parkway landscaping should consist of small to moderate size trees and complementary ground covers. A low, open fence will define the edges of the street right-of-way, except where private residential lots back up to the street, where solid perimeter walls will be provided. A short, secondary public street will connect the park site to Tyler Street. It will be constructed as a City-standard, 66-foot secondary street, as shown on Figure 25. The public roadway between the golf course clubhouse and the future interpretive center in Santa Ana River Regional Park will be constructed as a 66' secondary street with equestrian trail (see Figure 26).

Other design considerations are identified below:

a. The main entrance at Arlington Avenue shall include special landscaping treatment and monumentation to identify this location as a gateway into the City of Riverside, as well as the entry to the community of Rancho La Sierra. The entrance at Tyler Street shall also have special landscaping and monumentation (appropriate to the lesser scale of the street) to define this entry to Rancho La Sierra.

b. On-street parking is prohibited on the westerly public collector street.

c. Sidewalks are included only in the eastern portion of the Plan area, where the public street provides access from Tyler Street to the public park. This is the only area where pedestrian traffic is expected to be significant.

d. Street lights shall be provided on public street segments, with the locations, type and design as approved by the City Public Utilities Department.

e. Streets shall be designed and constructed to the specifications of the City Public Works Department.

f. Bus stops and bus turn-outs shall be provided at suitable locations, as determined by the City, in association with the Riverside Transit Agency (RTA).

g. Landscaping and irrigation systems for publicly maintained areas shall comply with the City's Water Efficient Landscaping and Irrigation Ordinance (Section 19.67 of the Municipal Code).

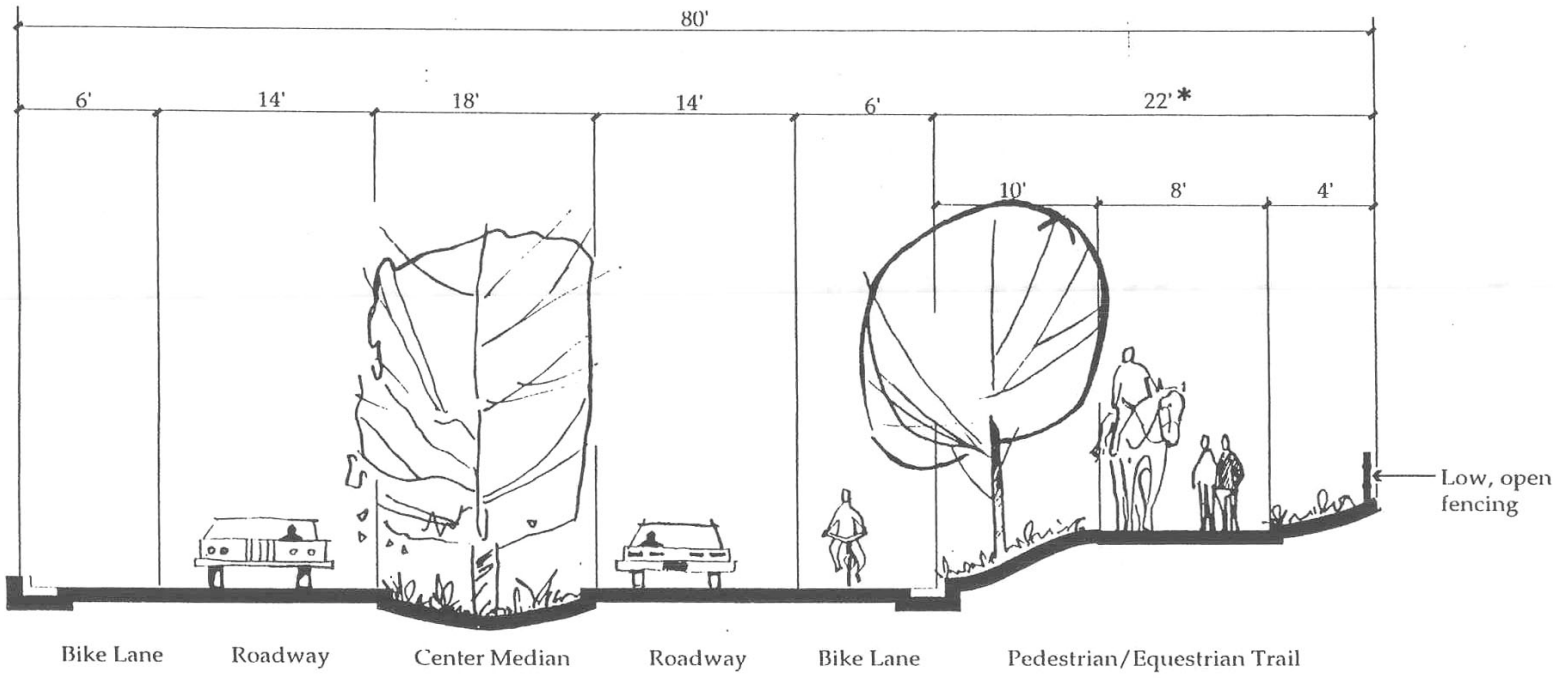
h. The design of emergency access roads shall be subject to Public Works and Fire Departments review and approval. Roadway access shall be provided to the satisfaction of the Fire Department. Knox key devices are available for use in the City.

I. Median grading and drainage facilities shall ensure that no surface runoff from the median enters the street, or as approved by the Public Works Director.

Private Streets

Private streets will provide access within the residential clusters, as shown in Figure 21. These will be two-lane roads, designed in accordance with the City's adopted private street standards as set forth in City Council Resolution No. 12006 and any subsequent amendments thereto. Limited access local private streets shall provide a 28-foot curb separation and 6-foot graded parkway (or 11-foot parkway with sidewalk) with rolled concrete curbs and parking restricted to one side of the street. The backbone private street shall provide a 32-foot curb separation and 6-foot graded parkway (8-foot with equestrian trail) with rolled concrete curbs. Private street sections are shown as Figures 27 and 28. Structural specifications and construction requirements shall be in compliance with the City Public Works Department standards.

All private streets shall be equipped with street lights, the type and design of which shall be as approved by the City Public Utilities Department. Specific private street alignments shall be established as part of the Master Subdivision Process, explained in Chapter V of this specific plan. Emergency access to gated streets shall be provided to the satisfaction of the Public Works and Fire Departments.

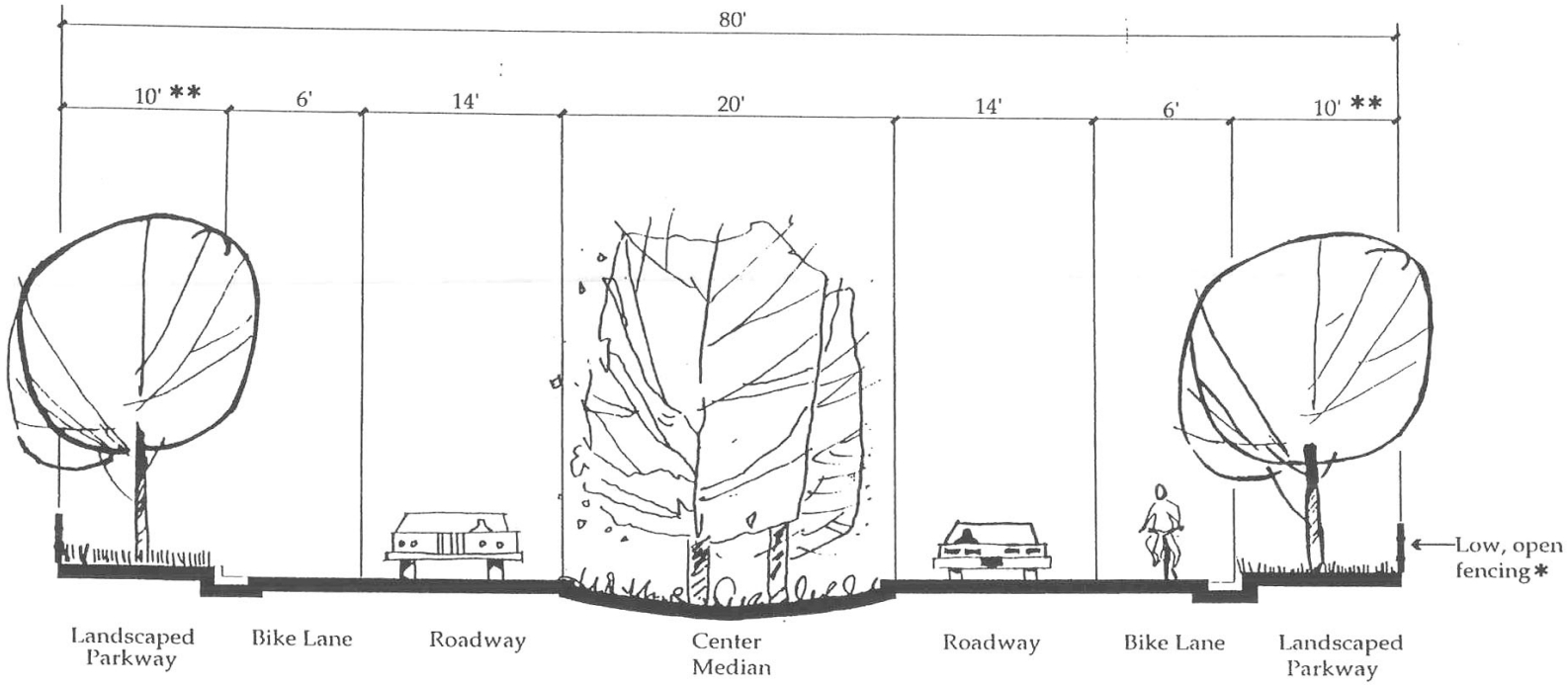


* Parkway width may be reduced subject to Planning Dept approval when appropriate to minimize grading.

MAIN PUBLIC COLLECTOR STREET WITH CENTER MEDIAN, BIKE LANE, AND TRAIL

Not to Scale

FIGURE 22

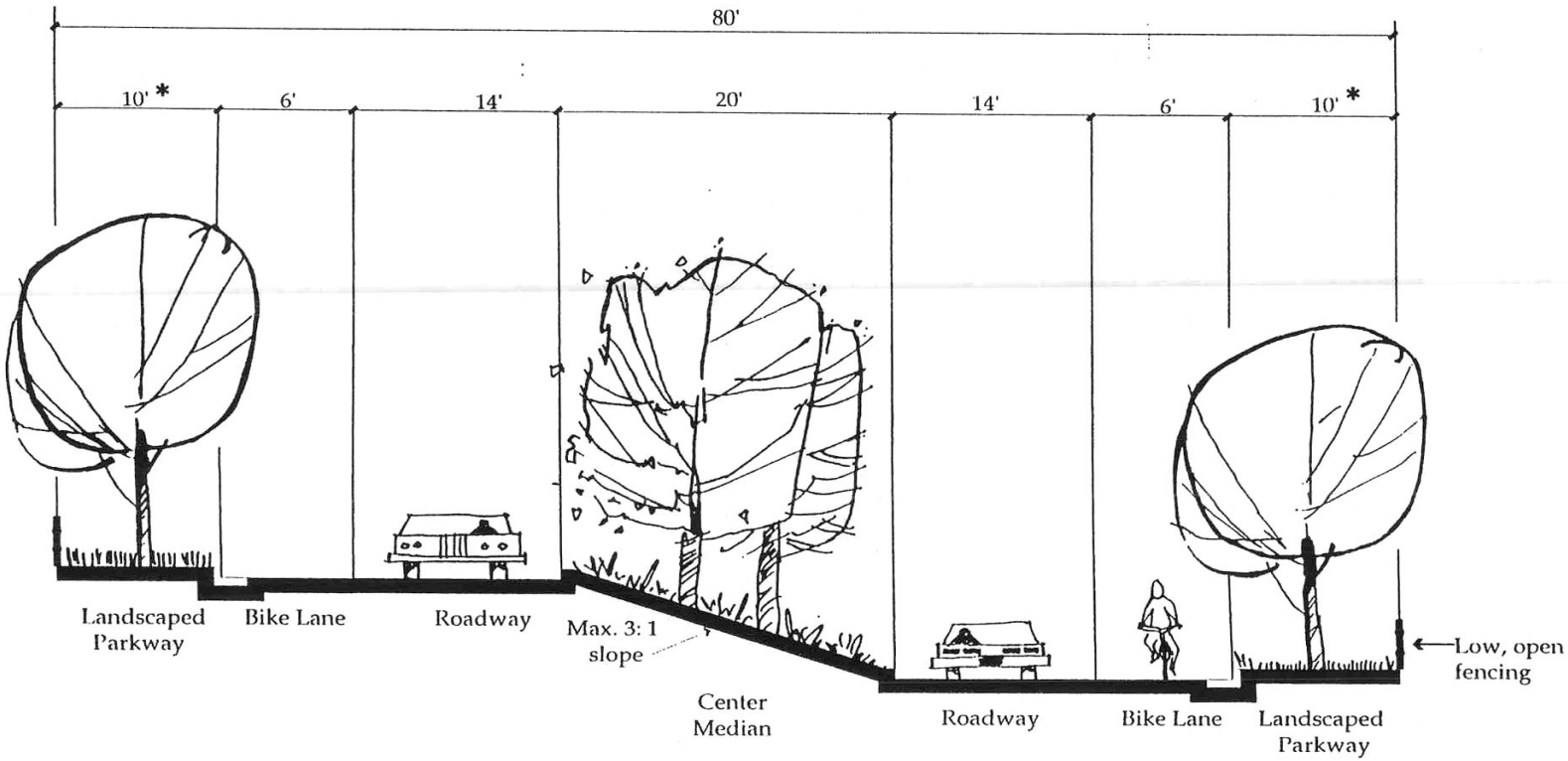


* Solid wall will be used where private lot backs up to street.
** Parkway width may be reduced subject to Planning Dept approval when appropriate to minimize grading.

MAIN PUBLIC COLLECTOR STREET WITH CENTER MEDIAN AND BIKE LANES

Not to Scale

FIGURE 23

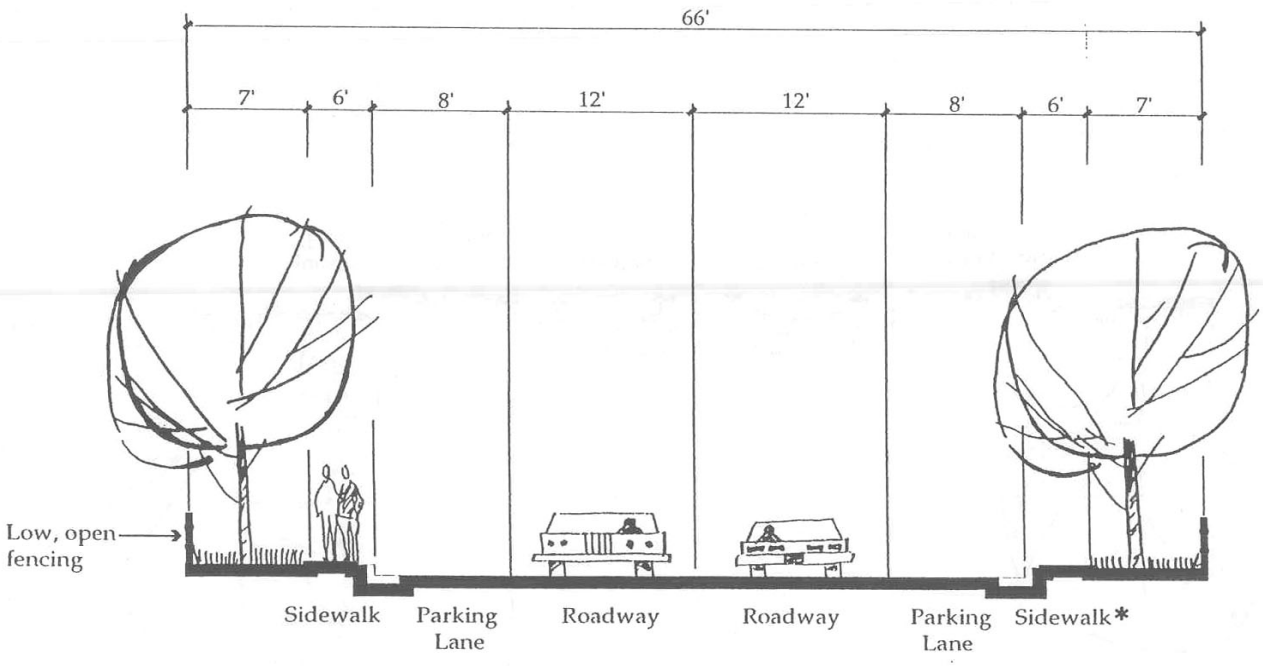


* Parkway width may be reduced subject to Planning Dept approval when appropriate to minimize grading.

SPLIT PUBLIC COLLECTOR STREET WITH SLOPED MEDIAN AND BIKE LANES

Not to Scale

FIGURE 21

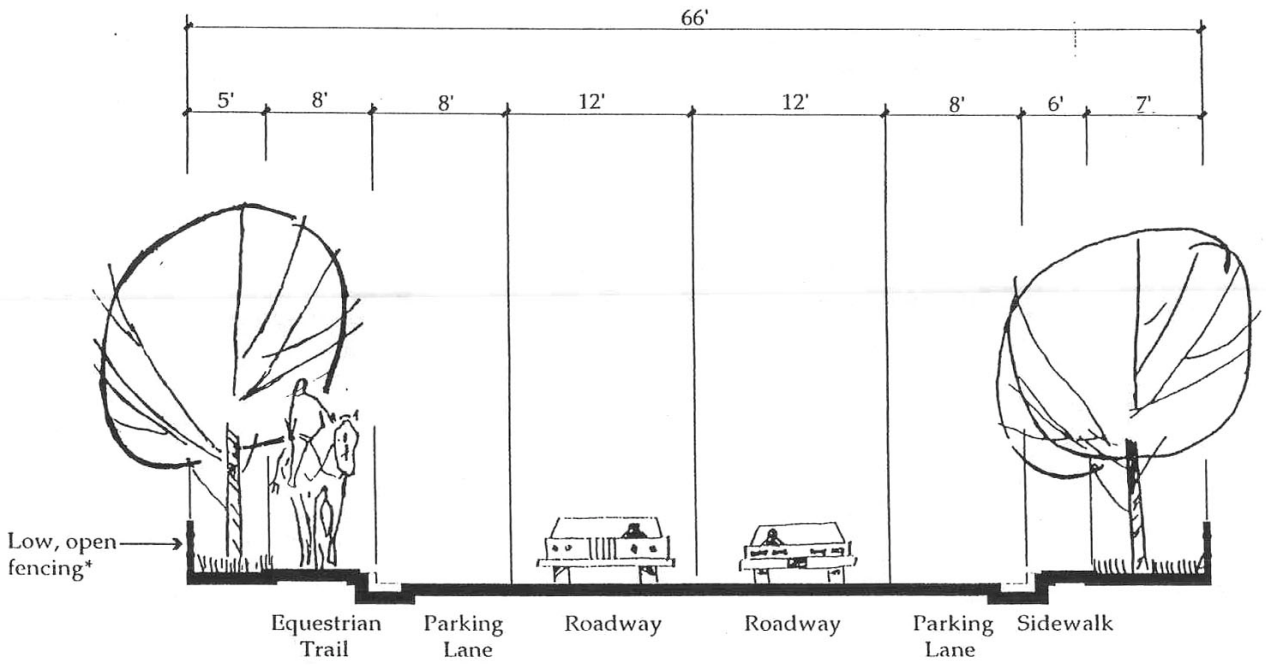


* Sidewalk may only be required on one side of the street if approved by the Public Works Dept.

STANDARD 66 FOOT PUBLIC SECONDARY COLLECTOR STREET

Not to Scale

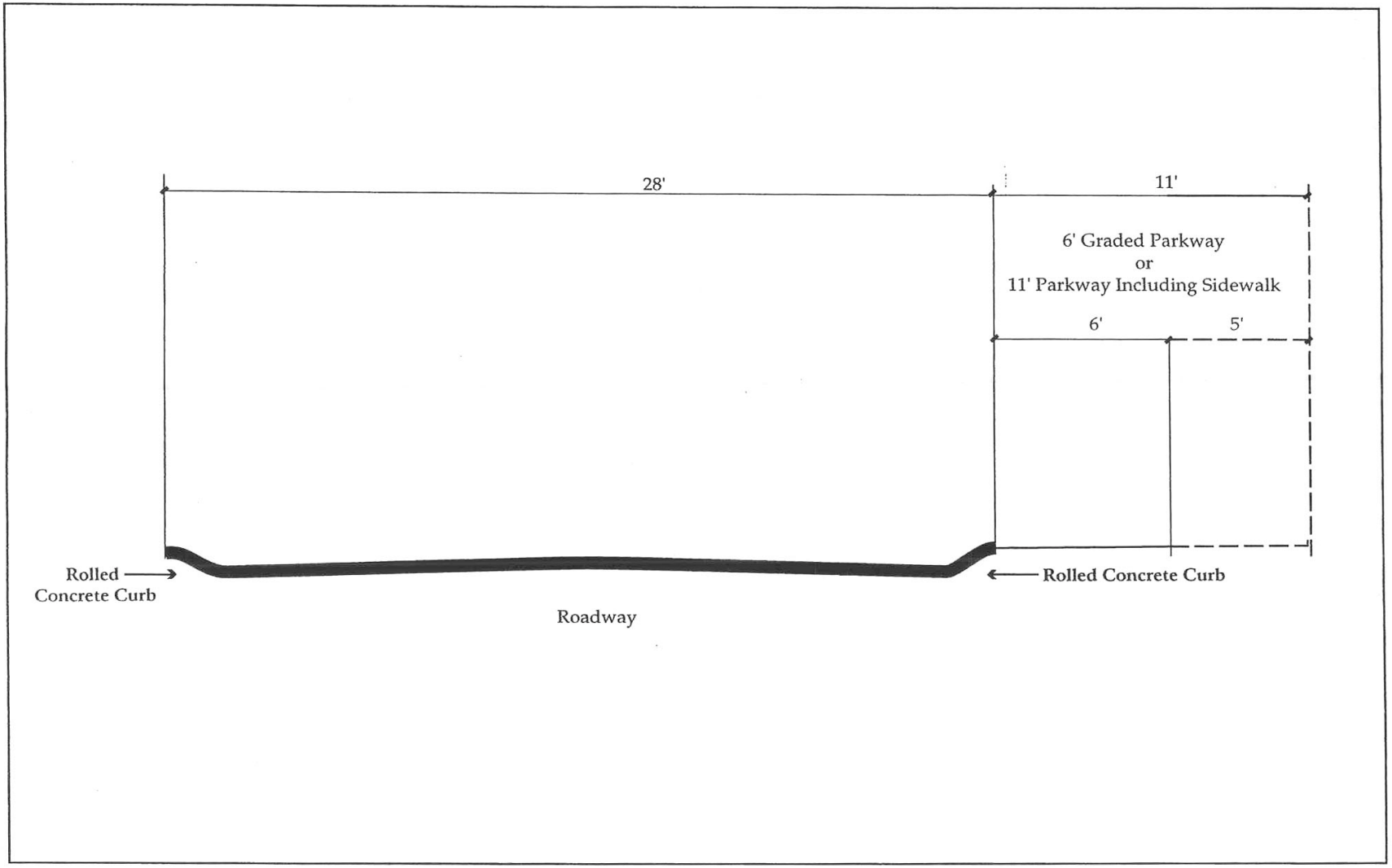
FIGURE 23



STANDARD 66 FOOT PUBLIC SECONDARY COLLECTOR STREET WITH TRAIL

Not to Scale

FIGURE 26



LIMITED ACCESS PRIVATE STREET

Not to Scale

FIGURE 27

FIGURE 28

Not to Scale

BACKBONE PRIVATE STREET

UTILITIES

The following objectives are applicable to the infrastructure and utilities that serve the site. Performance and design standards for each element are discussed individually below.

Objectives

a. Utility facilities shall be sized in accordance with the permitted land uses and intensities defined in Chapters II and III of this Plan, subject to the City Water Rules in effect and as approved by the Public Utilities Department.

b. Minimize total demand for the City's potable water supplies, through various conservation techniques, including the use of reclaimed water for major irrigation demands.

c. Satisfy all applicable public health and engineering standards in the most efficient manner possible. For example, water pressure requirements may be more efficiently met through master planning of several contiguous portions of the Plan area, as opposed to incremental planning to meet only the needs of each separate development project.

d. Minimize the need to modify facilities serving existing development.

e. Provide an adequate storm drainage system that minimizes the impacts of drainage on the sensitive Santa Ana River.

Water Service

Performance Standards

a. Use of the City's potable water supplies for golf course irrigation and other major irrigation needs shall be avoided, unless no cost-effective alternative sources can be provided. The determination of cost-effectiveness shall be made by the City's Public Utilities Department.

b. As part of the conditional use permit process for the golf courses, an analysis of potential alternative water supply sources such as reclaimed water from the City's Water Quality Control Plant, and local wells, shall be provided for review by the City's Public Utilities Department.

c. Water conveyance facilities shall be extended and / or constructed in conjunction with phased development by the developers of each golf course and each subdivision as the Plan is built out. The Public Utilities Department shall determine the water system improvements required for each project phase.

d. The provision and maintenance of water service facilities for subsequent projects pursuant to this Specific Plan shall be to the City of Riverside Public Utilities Department specifications.

e. In all cases, improvements to the water system required to service the Plan area shall be the obligation of the project developer(s).

f. The City of Riverside Public Utilities Department will operate and maintain public, but not private, water system facilities.

Design Criteria

a. Water system facilities shall meet all applicable standards of the City of Riverside Fire Department, the City's Public Utilities Department and the California Health and Safety Code.

b. Fire hydrant spacing shall be 350 feet as per Section 16.32.065 of the Riverside Municipal Code.

c. Graded shoulders/parkways as required for utilities shall be included within designated street rights-of-way, and not as separate utility easements, except as necessary within the golf course.

d. Adequate separation shall be maintained between public water facilities at or above ground level and equestrian trails.

Sanitary Sewer System

Performance Standards

a. All residential lots shall be connected to the City's sanitary sewer system pursuant to City specifications, unless otherwise approved by the Public Works Department.

b. As part of the master subdivision approval process, a master plan shall be provided that identifies all facilities required to collect wastewater from the Plan area and convey it to the City's trunk system off-site. The master plan shall identify locations, sizes and types of facilities required to serve the Planning area, both on and off-site. The project developer(s) shall be responsible for the cost of on and off-site improvements required to serve the project.

c. Wastewater conveyance facilities shall be extended and/or constructed in conjunction with phased development by the developers of each golf course and each subdivision as the Plan is built out.

Design Criteria

Plans shall be prepared in accordance with the specifications of the City of Riverside Public Works Department.

Storm Drainage

Performance Standards

a. Storm drainage systems shall incorporate or otherwise be consistent with the storm drainage policies of the General Plan (Policies SD 1.1 through SD 1.8 of the Growth Management Element).

b. Storm drainage systems shall take into consideration issues related to the Santa Ana River, including, but not limited to: water quality, protection of sensitive plants and wildlife, compatibility with the Santa Ana River Regional Park, compatibility with recreational trails, and County Flood Control District standards. Storm drainage plans shall be developed in consultation with the City Public Works Department, County Flood Control District and County Open Space and Parks District, the Santa Ana Regional Water Quality Control Board, and the California Department of Fish and Game.

c. Best Management Practices (BMPs) shall be employed, during construction activities and as a permanent maintenance effort, to implement the City's National Pollutant Discharge Elimination System Municipal Permit. Specific BMPs shall be identified as part of applications for site-specific development proposals, and approved by the City Public Works Department.

d. Stormwater conveyance facilities shall be extended and/or constructed in conjunction with phased development by the developers of each golf course and each subdivision as the Plan is built out.

e. Any special or non-standard drainage facilities proposed in conjunction with the storm drainage system shall be maintained through non-public means.

Design Criteria

a. The storm drain system shall be designed in accordance with Riverside County Flood Control District hydrology study criteria and shall be approved by the City's Public Works Department.

b. Storm drainage plans shall include a combination of drainage controls, including unlined open channels, buried drain pipes, earthen swales, detention basins, etc., based upon efficient engineering criteria and a sensitivity toward preserving and enhancing natural drainage courses and landscape values, and filtering of pollutants.

SOLID WASTE DISPOSAL

Objectives

Make positive contributions to the city-wide goal of reducing landfill disposal of solid wastes, as mandated by AB 939, through active solid waste reduction, reuse, and recycling efforts.

Performance Standards

a. The use of recycled materials in building products is encouraged.

b. All residential subdivisions shall cooperate with and participate in solid waste reduction efforts undertaken by the City or the private waste hauler involved, such as curbside recycling.

c. Encourage activities which reduce the generation of solid waste, such as the installation of trash compactors in residences and backyard composting.

d. Green wastes from street parkway and median maintenance and other large landscape areas that undergo regular maintenance shall be diverted from the landfill waste stream, to the maximum feasible extent.

Design Criteria

None applicable.

ENERGY

Objective

Provide natural gas and electricity to the site in the most efficient and cost-effective manner feasible.

Performance Standards

Energy distribution facilities shall be sized and located as appropriate to serve development as it occurs.

Design Criteria

All energy distribution facilities shall be placed underground, except for special equipment that must be placed above the ground surface.